

CLAIMS

1. An improved overhead or underground telephone lead-in  
cable for voice, video and data (VVDL) transmission  
services, consisting of an integrated thermoplastic outer  
5 cover of a semi-rectangular geometrical shape, said cable  
shows, equidistantly in its inner structure, one or  
several transmission circuits; self-supporting members,  
which are formed by two conducting elements made of metal  
or fiber glass, impregnated with polymers or kevlar  
10 tapes, said members are respectively arranged at the  
opposite ends, in parallel, and in turn are diametrically  
opposed to the main transmission circuit, said cable is  
characterized because it has a core formed by: a pair of  
stranded conductors placed at the center of the  
15 rectangular structure of the cable where said conductors  
are respectively insulated by a thermoplastic compound  
layer; a swelling layer surrounding said core  
electrostatically deposited as moisture protection  
element; and an extruded cover reinforced with  
20 thermoplastic material forming the lead-in cable.
2. The improved overhead or underground telephone lead-in  
cable for transmission services (VVDL) of claim 1,  
characterized because the circuit formed by a stranded  
pair of balanced circuit presents a characteristic  
25 impedance of 100 ohms.

3. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 1, characterized because the swelling powder is a conventional poly(sodium acrylate) homopolymer compound and it is applied through electrostatic means forming a cover layer on the stranded pair during the extrusion of the flame resistant reinforced thermoplastic cover.
4. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 1, characterized because the two self-supporting members, when they are made of metal, also act as additional circuit with regard to the core, enhancing the transmission of voice signals because between them they constitute a circuit oriented to the transmission of analog signals.
5. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 1, characterized because the circuit of the stranded pair permits the transmission of digital signal data at speeds of 155 Mbps and are stranded with a smooth surface at diameters of 0.5 to 0.64 mm and permit to span distances of up to 150 meters, and the distance between each strand of the conductors permits to reduce importantly the diaphony effects caused by the nearness of other element emitting electromagnetic signals and also reduces the loss

of energy to the other circuit.

6. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 1, characterized because in each one of the conductors, the core is insulated with a thermoplastic layer applied continuously and highly uniform in such a way that the concentricity of the wall of insulating material with regard to the conductor is higher than 90% and can be colored for identification purposes.
7. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) which includes a thermoplastic outer cover integrally extruded, with a semi-rectangular geometrical design; two self-supporting members placed in parallel and each one at one end of the semi-rectangular body, said members can be made of conventional materials selected between fiber glass impregnated with polymers, kevlar tape or mylar tape characterized because it has a core formed by a pair of stranded metal conductors arranged at the center of the rectangular structure of the cable being said conductor covered with an insulation material of thermoplastic compound; said cable also includes a thin thermoplastic sleeve as protecting element against melting heat up to 240°C; a filler of swelling material deposited electrostatically arranged between the area around the thin

sleeve and the core of the stranded conductors as moisture protective element; and an extruded and reinforced cover of thermoplastic material forming the body of the lead-in cable.

- 5 8. The improved overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 1, characterized because the conductors of the core or self-supporting members of the metal cables are elements based on copper or alloys submitted to thermal treatments.

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